

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A rotary joint for a multifunction pressure probe ~~(1)~~, comprising a fastening base ~~(11)~~ equipped with a bearing ~~(13)~~, a moving vane ~~(10)~~ free to rotate over a limited deflection and provided with a root ~~(12)~~ swiveling in the bearing ~~(13)~~ of the fastening base ~~(11)~~, pressure tap orifices ~~(15, 16)~~ located on the moving vane ~~(10)~~, pressure sensors placed on the outside of the moving vane ~~(10)~~ and air lines ~~(17, 21; 18, 22)~~ that connect the pressure tap orifices ~~(15, 16)~~ to the pressure sensors passing through the root ~~(12)~~ of the moving vane ~~(10)~~ and the bearing ~~(13)~~ of the fastening base ~~(11)~~, said rotary joint comprising ~~being characterized in that it includes~~ a plate ~~(23)~~, which can rotate relative to the root ~~(12)~~ of the moving vane ~~(10)~~ and is fastened to the fastening base ~~(11)~~ with respect to which it has a slight depth deflection, along the axis and at a distance from the bearing ~~(13)~~ that supports the moving vane ~~(10)~~, and lengths of flexible tubing ~~(21, 22)~~ that connect the root ~~(12)~~ of the moving vane ~~(10)~~ to the plate ~~(23)~~ and constitute the air lines ~~(17, 21; 18, 22)~~ over part of their path going from the root ~~(12)~~ of the moving vane ~~(10)~~ to the plate ~~(23)~~ beyond which the pressure sensors are placed.
2. (Currently Amended) The rotary joint as claimed in claim 1, ~~characterized in that it further comprising includes~~ electrical wires ~~(32, 33)~~ that connect the root ~~(12)~~ of the moving vane ~~(10)~~ to the plate ~~(23)~~ and form part of electrical connections going from the moving vane ~~(10)~~ to the body of the multifunction pressure probe ~~(1)~~.

3. (Currently Amended) The rotary joint as claimed in claim 1, further comprising ~~characterized in that it includes~~ a system for measuring the angular position of the moving vane ~~(10)~~ with means for correcting the measurement error due to the elastic stiffness estimated from the equation:

$$\alpha_v - \alpha = \frac{(\alpha - \alpha_0) R}{kV^2}$$

V being the air speed,  $kV^2$  the aerodynamic restoring force of the vane in the direction of the wind,  $\alpha_0$  the neutral position of the vane and R the stiffness coefficient.

4. (Currently Amended) The rotary joint as claimed in claim 1, further comprising ~~characterized in that it includes~~ a system for measuring the angular position of the moving vane ~~(10)~~ with means for correcting the measurement error due to the elastic stiffness estimated from the equation:

$$\alpha_v - \alpha = K \frac{(\alpha - \alpha_0)}{(P_t - P_s)}$$

K being a coefficient measured in a wind tunnel,  $P_t$  the total pressure,  $P_s$  the static pressure and  $\alpha_0$  the neutral position of the vane.

5. (Currently Amended) The rotary joint as claimed in claim 1, wherein ~~characterized in that~~ the lengths of flexible tubing ~~(21, 22)~~ that connect the root ~~(12)~~ of the moving vane ~~(10)~~ to the plate ~~(23)~~ are placed symmetrically with respect to the axis ~~(14)~~ of the bearing ~~(13)~~.

6. (Currently Amended) The rotary joint as claimed in claim 2, wherein ~~characterized in that~~ the electrical wires ~~(32, 33)~~ that connect the root ~~(12)~~ of the moving vane ~~(10)~~ to the plate ~~(23)~~ are placed symmetrically with respect to the axis ~~(14)~~ of the bearing ~~(13)~~ and close to this axis ~~(14)~~.
7. (Currently Amended) The rotary joint as claimed in claim 1, wherein ~~characterized in that~~ the lengths of flexible tubing ~~(21, 22)~~ that connect the root ~~(12)~~ of the moving vane ~~(10)~~ to the plate ~~(23)~~ are made of a thermoplastic elastomer.
8. (Currently Amended) The rotary joint as claimed in claim 1, wherein ~~characterized in that~~ the lengths of flexible tubing ~~(21, 22)~~ that connect the root ~~(12)~~ of the moving vane ~~(10)~~ to the plate ~~(23)~~ are made of a thermoplastic elastomer of the styrene/ethylene-butylene/styrene copolymer type modified with silicone oil.
9. (Currently Amended) The rotary joint as claimed in claim 1, wherein ~~characterized in that~~ the slight deflection of the plate ~~(23)~~ is obtained by deformation of said plate ~~(23)~~, the latter being made of an elastic material that absorbs, by its deformation, some of the elongational forces undergone by the lengths of flexible tubing ~~(21, 22)~~ during the relative rotational movements between the root ~~(12)~~ of the moving vane ~~(10)~~ and the plate ~~(23)~~.
10. (Currently Amended) The rotary joint as claimed in claim 2, wherein ~~characterized in that~~ the slight deflection of the plate ~~(23)~~ is obtained by deformation of said

plate ~~(23)~~, the latter being made of an elastic material that absorbs, by its deformation, the elongational forces undergone by the electrical wires ~~(32, 33)~~ and also some of the elongational forces undergone by the lengths of flexible tubing ~~(21, 22)~~ during the relative rotational movements between the root ~~(12)~~ of the moving vane ~~(10)~~ and the plate ~~(23)~~.

11. (Currently Amended) The rotary joint as claimed in claim 9 ~~or claim 10~~, wherein ~~characterized in that~~ the plate ~~(23)~~ is made of rubber.

12. (Currently Amended) The rotary joint as claimed in claim 9 ~~or claim 10~~, wherein ~~characterized in that~~ the plate ~~(23)~~ is made of an elastomer.

13. (Currently Amended) The rotary joint as claimed in claim 9 ~~or claim 10~~, wherein ~~characterized in that~~ the plate ~~(23)~~ is made of a thermoplastic elastomer.

14. (Currently Amended) The rotary joint as claimed in claim 9 ~~or claim 10~~, wherein ~~characterized in that~~ the plate ~~(23)~~ is made of a thermoplastic elastomer of the styrene/ethylene-butylene/styrene copolymer type modified with silicone oil.

15. (Currently Amended) The rotary joint as claimed in claim 1, wherein ~~characterized in that~~ the slight deflection of the plate ~~(23)~~ is obtained by a flexible fastening ~~(28, 29)~~ to the fastening base ~~(11)~~ that partly absorbs the elongational forces undergone by the lengths of flexible tubing ~~(21, 22)~~ during the relative rotational movements between the root ~~(12)~~ of the moving vane ~~(10)~~ and the plate ~~(23)~~.

16. (Currently Amended) The rotary joint as claimed in claim 2, wherein ~~characterized in that~~ the slight deflection of the plate (23) is obtained by a flexible fastening (28, 29) to the fastening base (11) that absorbs the elongational forces undergone by the electrical wires (32, 33) and also some of the elongational forces undergone by the lengths of flexible tubing (21, 22) during the relative rotational movements between the root (12) of the moving vane (10) and the plate (23).

17. (Currently Amended) The rotary joint as claimed in claim 1, wherein ~~characterized in that~~ the lengths of flexible tubing (21, 22) are slightly tensioned between the root (12) of the vane (10) and the plate (23).

18. (Currently Amended) The rotary joint as claimed in claim 2, wherein ~~characterized in that~~ the electrical wires (32, 33) are slightly tensioned between the root (12) of the vane (10) and the plate (23).

19. (Currently Amended) The rotary joint as claimed in claim 2, wherein ~~characterized in that~~ the electrical wires (32, 33) pass, on leaving the root (12) of the moving vane (10) through the plate (23), following, between the root (12) of the moving vane (10) and the plate (23), paths parallel to those of the lengths of flexible tubing (21, 22), these being symmetrical with respect to the axis (14) of the bearing (13).